

Nov. 18, 2008

Response to Draft State Operating Permit and SAPCB's Seven Technical Questions for Mirant PRGS

Elizabeth Chimento
1200 N. Pitt St.
Alexandria, VA 22314
(703) 548-7939

Members of the Board and DEQ Director Paylor:

Seven years ago, I and Poul Hertel began looking into the Mirant facility, concerned that our neighborhood's health was at risk from its pollution. Our major focus, then and now, was the impact of PM 2.5, microscopic particles recognized by scientists as an insidious public health threat, associated with asthma, emergency room visits, upper respiratory infections, heart arrhythmias, strokes and deaths.

Yet, this draft permit has no provisions for modeling or measuring PM 2.5 particles, regardless of the fact that both EPA and Virginia have adopted PM 2.5 air quality standards. To use PM 10 as a surrogate for PM 2.5, which this permit does, is a grossly inexact, irresponsible measuring tool.

Further, the City's professional modeling shows that this permit fails to comply with PM 2.5 NAAQS. For the Agency to intentionally establish a PM 2.5 limit that exceeds the NAAQS is a violation of the law, a dereliction of duty to protect public health and results in further erosion of public trust.

DEQ has repeatedly stated to me that "EPA has not promulgated a methodology for modeling PM 2.5 and therefore the Agency uses PM 10 as a surrogate." However, EPA has now established guidelines for PM 2.5 modeling (September '07) which are currently out for public comment. Since other states have already established a PM 2.5 modeling methodology and emission limit, I urge the Board and DEQ to use the EPA guidelines to determine and establish a PM 2.5 emission limit now which will protect PM 2.5 NAAQS and public health.

Adding to the PM 2.5 problem is trona's installation which, since its inception, has shown steep opacity increases for every boiler. Because opacity is a precursor of PM 2.5, and trona must be used in large amounts to curb SO2 in this permit's allowance of greater production, particle emissions will potentially increase at the plant. I ask that strict emission limits be set on PM, PM 10 and PM 2.5 so that these emissions do not increase.

The serious health threat from the plant's small particle emissions, exacerbated by the facility's short stacks and location in an urban setting, require state of the art pollution control technology. To that end, only baghouse technology can sufficiently capture PM 2.5 particles to adequately protect public health.

Further, CH2M Hill consultants, whom Mirant hired in 2001, recommended replacing Mirant's antiquated control technology by a newer baghouse, stating it would filter 50% more emissions (report delivered during visit to plant, 8/01). However, Mirant chose not to do so, stating it was not in the economic interest of the company. Now, six years later, it is time that Mirant be required to accept its own consultant's recommendation and install current baghouse technology to protect public health.

Regarding NSR issues at the facility, DEQ has indicated that three physical changes at the facility are potential triggers for NSR applicability: installations of SOFA, Low Nox Burners and Trona. Further, in a letter to the City (July, 2006, attached) both Regional and Agency Directors stated that an NSR evaluation of the changes would be completed prior to issuing a draft SOP.

However, when I recently asked DEQ's Deputy Director for the NSR evaluation, stating that I expected a formal analysis, I was told that no formal evaluation existed but that he "would put together what he had and send it to me."

Three days later, I received instead, an e-mail from the Deputy Director saying the "NSR review was still in process in earlier 2007 but was overtaken by events. Once DEQ was directed by the State Air Pollution Control Board in April of 2007 to public notice a State Operating Permit with an annual limit for sulfur dioxide of 3813 tons, it was apparent that this cap on sulfur dioxide emissions along with the various operational limits imposed by the permit **would make the new source review determination on Trona moot**"(see attached).

Dissatisfied with this contradictory response, I asked the Director to please send me the NSR analysis, though incomplete, which I had been assured was coming to me. I received a DEQ internal discussion paper which summarized the three potential NSR triggers and DEQ's concluding evaluation that none of the three physical changes (SOFA, Low Nox Burners, nor Trona) would trigger NSR (attached). Yet, no numbers were included to substantiate these conclusions. So where is the formal NSR evaluation that the DEQ 2006 letter to the City claimed would be issued prior to the SOP?

Finally, I fully support the City's comments on the draft comprehensive state operating permit, including their scientifically-based analysis that emission limits are too high, do not protect public health and will worsen air quality in Alexandria and surrounding areas, their request that CEMS for PM and CO be required immediately, that annual emission limits must not exceed the baseline years of 2005-2006. I also endorse the City's responses to the SAPCB's Seven Technical Questions.

Attachments included (3).



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

L. Preston Bryant, Jr.
Secretary of Natural Resources

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David K. Paylor
Director

Jeffery A. Steers
Regional Director

July 26, 2006

Mr. John B. Britton
Schnader Harrison Segal & Lewis LLP
2001 Pennsylvania Ave, NW Suite 300
Washington, DC 20006-1825

Mr. Ignacio B. Pessoa, City Attorney
City of Alexandria
301 King Street
Alexandria, VA 22314

Dear Messrs. Britton and Pessoa:

On behalf of the Virginia Department of Environmental Quality (Va. DEQ), we appreciate the City of Alexandria taking the time to provide written comments outlining your concerns (reference your letter of June 23, 2006) about the Mirant facility. David Paylor has asked that I provide you with our response to the concerns raised in your letter.

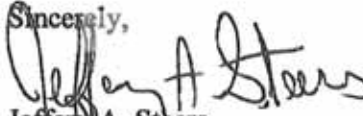
As you are aware, the agency is in the process of drafting a State Operating Permit (SOP) to address the facility's impact on all National Ambient Air Quality Standards (NAAQS). The Mirant facility continues with the use of TRONA as a control technology in order to achieve significant reductions of SO₂. We acknowledge the city's concern that TRONA converts gaseous SO₂ into particulate matter; however the resultant particle size resulting from calcination appears to be significantly greater than 2.5 microns, and the electrostatic precipitators (ESPs) control particulate matter. Nevertheless, the agency understands the community's concern with the use of TRONA. Director Paylor has asked that the Virginia Department of Health provide guidance to Va. DEQ on the use of this chemical and to advise us of any health related concerns, prior to the agency issuance of a draft SOP.

Mr. John B. Britton
Mr. Ignacio B. Pessoa, City Attorney
July 26, 2006
Page Two

With respect to the issue you raise that the installation of the TRONA system triggers New Source Review (NSR), we are evaluating the applicability of NSR. We are not yet prepared to comment on how or if NSR is applicable in this situation. Clearly this is an important consideration for the agency, and as such we are taking a thoughtful and deliberate approach in our review. Director Paylor and I have instructed staff to complete this review and make appropriate recommendations relating to NSR prior to issuance of a draft State Operating Permit. We will continue to keep in close communication with the city throughout our permitting process. We appreciate the city's offer to assist the agency as appropriate. Once the agency is in a position to issue a draft SOP we will schedule a meeting with the city to discuss the draft permit prior to it being public noticed.

Director Paylor and I are committed to a collaborative working relationship with the city and look forward to future discussions on this important matter.

Sincerely,



Jeffrey A. Steers
Regional Director

cc: David Paylor

Elizabeth Chimento

From: "Weeks,Richard" <rfweeks@deq.virginia.gov>
To: <ecchimento@comcast.net>
Cc: "Paylor,David" <dkpaylor@deq.virginia.gov>
Sent: Thursday, November 08, 2007 6:16 PM
Attach: Mirant Past NSR Applicability Determination Review.doc
Subject: NSR

Elizabeth,

The attached is the document that I believe Dave mentioned when you spoke yesterday. This was a discussion paper that Jim Sydnor shared with EPA Region III, so we could consider their views when making a final decision. We did not receive a response to the paper from EPA. Jim has been out of the office but one of his staff was able to locate the attached document.

Rick

1/7/2008

Summary of Past NSR Applicability Determination Review for the Mirant Potomac River Generating Station

The Department of Environmental Quality staff conducted a review of all past actions conducted by the Mirant Potomac River Generating Station (PRGS) in Alexandria, Virginia to determine whether New Source Review (NSR) should have applied. Staff evaluated over 75 different projects that have taken place in the past several years with a focus on three specific projects. The projects were the installation of Low NOx Burners (LNB), Separated Over-Fired Air (SOFA) and Trona. After review by DEQ staff, it has been determined that NSR applicability was not triggered as a result of these actions at PRGS.

Installation of Low NOx Burners

As a result of the federal Consent Decree, LNBs were installed at PRGS in April 2004 for units 3, 4, & 5 and September 2004 for units 1 & 2. At the time of installation, EPA's NSR reform regulations (promulgated 12/31/2002) had a provision for Pollution Control Projects (PCP) which allows for an increase of one pollutant if the decrease in another pollutant is more environmentally beneficial. In the case of LNB, the slight increase in CO is offset by the decrease in NOx. In the 2002 regulations, EPA specifically listed LNB as an acceptable PCP. Additionally, in 2004, Virginia was utilizing a July 19, 1999, Policy Memo signed by the then DEQ Air Director, John Daniel titled "Incidental CO Emission Increases from Utility Control Efforts" which allows a source the option of not obtaining a permit for the increase of CO as a result of installing LNB. Although the D.C. Circuit Court vacated the PCP provision of the 2002 regulations on June 24, 2005, at the time the actions took place, PCPs were acceptable both under the federal regulations and state policy.

Installation of Separated Over-Fired Air (SOFA)

The installation of SOFA was also required as a result of the federal Consent Decree. SOFA was installed on units 3, 4, & 5 in February 2005. SOFA is also control equipment that reduces NOx but may cause an increase in CO and VOCs. As with LNB, the PCP portion of the federal NSR reform regulations was still in effect. In addition, and more importantly to the state program, the DEQ policy specifically addressing incidental CO increases as a result of installing NOx controls was being implemented. The DEQ policy is not limited to LNB. Although it is not specifically listed in the federal regulations as a PCP, it is reasonable to conclude that any subsequent decrease in NOx would be considered more environmentally beneficial than any slight increase in CO. Regarding VOCs, based on calculations of potential increase in VOC emissions as a result of adding SOFA, it was determined there would be a maximum potential increase of 20.71 tpy. This was calculated using a worse case scenario of future potential to emit of all five boilers at 8760 (28.7 tpy) and subtracting the 2002 – 2003 baseline actual emissions of 23.96 tpy VOC. (2004 was not deemed as a representative year since the facility was shut down part of the year for installation of controls.) The difference of

4.74 tpy is below the significance level of 40 tpy as well as the 25 tpy significance level in a non-attainment area. Therefore, it was determined that no permit action was necessary for the installation of SOFA.

Installation of Trona

The installation of Trona was required by the June 1, 2006, EPA Administrative Consent Order (ACO). The Trona system was installed in February 2005. The Trona system was installed to decrease the SO₂ emissions but it was evaluated for a possible increase in particulate emissions that could have triggered major NSR. Since the installation of Trona, stack testing was conducted to determine if adding Trona results in an increase of PM from the stacks. The stack test showed that adding Trona actually results in a decrease of emissions from the stacks. The Trona system is enclosed and therefore no fugitive emissions are predicted to result from the unloading and injection processes. Additionally, particulate fugitives from the ash handling and road dust were evaluated. Based on the submitted permit application, there is a projected increase of total fugitive PM of approximately 5 tpy as a result of installing the Trona system. Part of the Federal Consent Decree required PRGS to implement controls to reduce PM emissions. This included: 1) Bottom Ash and Fly Ash Silo Vent Secondary Filtration; 2) Coal Pile Wind Erosion and Dust Suppression; 3) Coal Stackout Conveyor Dust Suppression; 4) Ash Loader Upgrade; 5) Ash Loading System Dust Suppression; 6) Coal Railcar Unloading Dust Suppression; 7) Settled Dust Study; and 8) Truck Washing Facility. The estimated reduction of PM emissions from these projects was estimated to be 48 tpy. Several of these projects have already been completed at the facility. The large decrease in PM emissions from these projects would offset the estimated emissions increase resulting from the installation of the Trona system. Therefore, it was determined that no permit action was necessary for the installation of the Trona System.

Conclusion

In conclusion, VADEQ made the determination that none of these three past actions would have triggered Major NSR.

Enclosures:

Mirant Major Source Timeline

VADEQ Policy – “Incidental CO Emission Increases from Utility NO_x Control Efforts”

Calculated VOC Emissions

4/27/07

Elizabeth Chimento

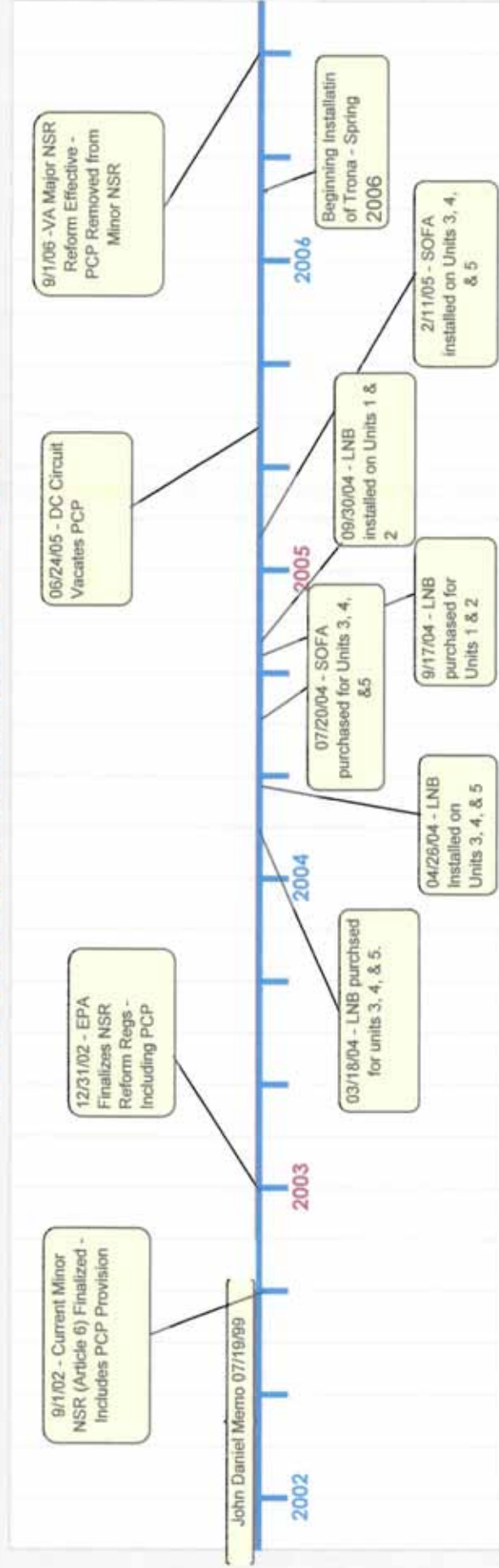
From: "Franklin,Elsie" <ewfranklin@deq.virginia.gov>
To: "Elizabeth Chimento" <ecchimento@comcast.net>
Sent: Friday, November 09, 2007 1:36 PM
Attach: VOC Emissions After Control Equipment.doc; JD CO Policy Memo.pdf; Mirant Major NSR Timeline.xls
Subject: Enclosures

Ms. Chimento: I will follow up with a phone call to ensure you received these documents. Have a nice weekend.

Elsie W. Franklin
Office of the Director
Department of Environmental Quality
804-698-4034 (direct dial)
1-800-592-5482 (in state)
804-698-4019 (fax)



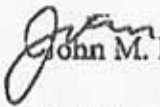
Major NSR Timeline for Mirant



John Daniel's July 19, 1999, memo was based on the July 1, 1994 John Seitz memo allowing Pollution Control Projects (PCP)
Article 6 PCP regulations required the source to get a permit

**DEPARTMENT OF ENVIRONMENTAL QUALITY
INTRA-AGENCY MEMORANDUM**

TO : Karen J. Sismour, Regional Permit Manager, TRO

FROM :  John M. Daniel, Jr., PE, DEE, Director, Division of Air Program Coordination

SUBJECT : Incidental CO Emission Increases from Utility NOx Control Efforts

DATE : July 19, 1999

The decision to permit incidental emission increases of carbon monoxide resulting from required NOx control efforts at electric utility power plants should be left to the owner. No compliance or enforcement efforts should be directed against any facility choosing not to seek a permit for such increases.

Our permit rule (9 VAC 5-80-1100) addresses such issues by excluding the addition of pollution control systems from the definition of "modification". While this does not strictly apply to major modifications under the PSD or nonattainment provisions, such increases are exempted under federal regulations in the form of the "WEPCO Rule" (57 FR 32314). Further, EPA issued a guidance document July 1, 1994, (John S. Seitz, Director EPA OAQPS, memo titled "Pollution Control Projects and New Source Review (NSR) Applicability"; see electronic file located at K:\AGENCY\EPABULL\AIR\GUIDANCE\PCPGUIDE.WP5) which extended the concept of the pollution control project exclusion to non-utility facilities. Our lack of adoption of the WEPCO rule is simply a matter of timing. We had intended to incorporate it at the same time we adopted changes to major source permit rules following EPA's adopting its new source review reform package. Unfortunately, that reform effort stalled. In hindsight, we probably should have adopted our version of the WEPCO rule separately.

While the July 1, 1994, EPA document does say it is for non-utility facilities only, it also mentions that for years prior EPA had exempted pollution control projects from major source permit requirements on a case by case basis. In that vein, I consider all changes made at Virginia utility plants solely to comply with tighter NOx emission limits imposed by us to qualify for exclusion from both minor and major modification permit requirements as far as increases in carbon monoxide emissions are concerned. The trade-off of modest amounts of CO for substantial amounts of NOx is clearly beneficial from an environmental standpoint.

However, should a utility feel uncomfortable with this determination and insist on obtaining a PSD permit for the CO increase, I would reluctantly say to go ahead and process the application.

cc: Regional Directors
Director, Office of Enforcement Coordination
Director, Office of Air Regulatory Development
Director, Office of Air Permit Programs

Calculated VOC Emissions from Adding Control Equipment Mirant Potomac River Generating Station

The VOC emissions were evaluated in relation to the Trona and SOFA projects. By default the baseline evaluation would have been no LNB and no SOFA (2002 and 2003 baseline determination) and the post LNB and SOFA installations (FPTE determinations for the SOFA and Trona). The following table provides the information on these emissions.

| Calculated VOC Emissions | | | | | | |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| Condition | Unit 1 (tons/yr) | Unit 2 (tons/yr) | Unit 3 (tons/yr) | Unit 4 (tons/yr) | Unit 5 (tons/yr) | TOTAL (tons/yr) |
| Pre LNB/SOFA (2002- 2003 baseline) | 5.45 | 5.74 | 7.66 | 7.96 | 8.34 | 35.15 |
| Post LNB/SOFA including Trona Injection (PTE) | 9.66 | 9.66 | 9.57 | 9.57 | 9.57 | 48.03 |

- The Pre LNB/SOFA emissions are the actual emissions reported for the 2002 and 2003 baseline years.
- The Post LNB/SOFA emissions are the projected emissions assuming 8,760 hours/yr and with Trona injection.
- The increase in emissions is 12.88 tons/yr which is less than both the significances levels for both PSD (40 tons/yr) and non-attainment (25 tons/yr).